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NARRATING: FROM EVOLUTIONARY TO CLINICAL ADVANTAGES

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SUMMARY

Human beings constantly narrate reality. They narrate themselves, to themselves and to others. They narrate each other and narrate humanity. They narrate the world and nature. They narrate meaning, the meaning of life and things. This article aims to explore this phenomenon of "narrating". Through a narrative review, we will attempt to gather elements of reflection on narrative, considered here as the ability to narrate, it means to represent oneself, to put meaning. Firstly, we will focus on how cognition, interpretation, and culture allow Homo Sapiens to narrate reality to himself. Then, we will explore why they do it and discover the evolutionary advantages of language, of sharing experiences between individuals through the phenomenon of cumulative cultural evolution, and how narrative facilitates the species' access to these advantages. Finally, we will delve into the clinical implications of narrative, discussing therapeutic interviews, therapy, and psychopathology. Narratives and pre-linguistic mental representations appear to have driven the Homo genus to develop cognitive abilities that enable the development of language and the sophistication of narratives as a cultural medium. Through language, Homo sapiens share their narratives and develop a cumulative common culture. Each individual's culture seems to be constructed in dialectic with this shared culture through narratives. This dialectic gives rise to psychopathological processes while also producing therapeutic leverage. Understanding the mechanisms of co-construction of these narratives is essential in clinical research in mental health. Furthermore, placing narratives in the perspective of an essential evolutionary strategy in the Homo genus solidifies the significance of the narrative faculty in the biological functioning of Homo sapiens, and so the importance of narratives in mental health.

Key words: *narrative – culture - evolutionary advantages - psychiatry*

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INTRODUCTION

Narrative, here, is to be understood as representation: such as it exists even before words. However, we will see to what extent words are facilitators of narratives, how they are a powerful technology for narratives (Dor 2017). To represent reality is to imbue it with meaning, a common thread, or simply a thread. Not all representations need to fit into a coherent whole, but we seek coherence everywhere (Gazzaniga 2013).

We constantly use narrative in our lives; our thoughts are narratives or representations (Bruner 2013). In psychiatry, we use it prominently: psychiatrists are indeed tasked with receiving the narratives of their patients, using empathy to try to understand the multiple relative coherences they have constructed, determining when coherences are detrimental or when they become incoherent and delusional rather than relative. Through the lens of their own narratives, psychiatrists are constantly examining the narratives of their patients and collective narratives to better understand the clinical implications of narrative (Combs & Freedman 2016).

We will focus on the faculty of "narrating". We will discuss hypotheses about the mechanisms of narratives and the development of such a strategy within evolution, by asking why do we narrate? We will also explore the connection between narrative and mental health clinical practice.

The objective of this article is to determine if the arguments presenting narrative as a central adaptive strategy in the evolution of our species share commonalities with the arguments presenting narrative as an essential clinical element.

NARRATING REALITY

Cognition: From Perception to Language

Human beings, like any animal, are constantly interacting with their environment. The mental activities involved in these interactions (perception, memorization, recall, problem-solving, decision-making, etc.) constitute cognition. These are mental processes that react to stimuli from the environment, external information (Fortin & Rousseau 2015). From these complex processes, which we only modestly understand, emerges a certain representation of reality. This is manifested through mental representations. When they are linked to concrete objects, they are mental images, i.e., "*internal representations of sensory impressions associated with objects"* (Fortin & Rousseau 2015). Mental images are not limited to visuals; they can involve all sensory modalities. Other mental representations are not associated with concrete objects; they are abstract and allow for categorizing objects according to a certain logic. These are concepts (Aramburu Oyarbide 2004). Concepts, their characteristics, and information related to the relationships between them are stored in semantic memory (Fortin &

Rousseau 2015). By categorizing, concepts simplify our representation of reality through abstraction. Because that is precisely what it is about: simplifying reality. The brain seems to produce multiple strategies to simplify the complexity of reality in order to interact with it: this concept has been put forward as "Simplexity" (Berthoz 2009).

However intelligent human beings may be, they are limited and cannot grasp reality in an absolute manner: the amount of information is too vast and complex, and much of it is imperceptible. Humans are forced to simplify, to popularize it to themselves, to represent it to themselves. These representations are creations of the brain, linked and provoked by the perception of reality. *"The environment as we perceive it is our invention"* (Watzlawick 1999). Without these mental representations, the organism would probably be unable to integrate the necessary information for its survival (Damasio 2005). In Homo sapiens, this representation of reality is intimately intertwined with language. Language is not just speech; it precedes speech and encompasses it among other means of expressing conscious reality. However, the use of words is clearly a predominant means of expression in Homo sapiens. Similarly, narrative is not limited to words (Boyd 2018). Different models attempt to approach the mechanisms of this relationship. For example, the work of Jerome Bruner describes in various stages the transition from perception to concept, and then from concept to language (Aramburu Oyarbide 2004). The relevant point here is to say that humans will strive to describe their representations, particularly through the languages they learn. Through language, Homo Sapiens will narrate, to himself and to others, his representations of reality (Larochette 1973).

Interpreting: Constructing the Narrative

Our mind easily fills in the missing elements in our understanding of the phenomena we encounter through plausible hypotheses. Additionally, it readily confuses things. This is due to our faculty of interpretation (Boyd 2018, Hirstein 2005).

We do not spend our time merely reproducing learned narratives; 40% of conversation time involves spontaneous storytelling. We have a deep tendency to create meaning, to interpret (Boyd 2018). The work of Michael S. Gazzaniga on the corpus callosum has led to the discovery of a process he calls "the interpreter," located in the left hemisphere, which functions to construct coherence with the information available to consciousness. Astonishing experiments demonstrate the existence of a cognitive ability to construct meaning, interpret situations, and narrate reality (Gazzaniga 2013). This process plays an essential role in the sense of unity. Cases of dysnarrativia also suggest the existence of a specific cognitive capacity to narrate, especially narration to ourselves (Bruner 2013). Indeed, the sense of self may be nothing more than a narrative, and its construction may be one of the interpreter's primary functions (Gazzaniga 2013). Most of our procedural learning escapes our consciousness (e.g., walking, speaking, muscle coordination) and cognitive sciences tend to demonstrate that most of our decisions are also made before we have conscious representation. Yet, we are convinced that, as unique entities, we are the originators of our decisions (Nardone & Wittezaele 2016). Unconscious biases, preceding consciousness, initiate behaviors toward what proves advantageous in the decision-making process (Bechara et al. 1997).

Narrating makes Culture

Humans possess a remarkable capacity to narrate reality. According to Bruner, this ability is as essential and specific to Homo sapiens as the opposable thumb enabling grasping or bipedal posture (Bruner 2013). The emergence of narrative occurs with language acquisition during development and is part of a dialectic with other individuals. Ultimately, through language, personal realities are shared, and the experimentation of reality is made communal. This sharing occurs through semantic consensus (Boyd 2018). For example, there is an implicit consensus regarding the gap between ontological reality and *the reality invented*, to borrow Paul Watzlawick's phrase, as described by language (Larochette 1973).

Moreover, codes govern the world of storytelling. Bruner speaks of narrative conventions (Bruner 2013). These conventions organize narratives and presuppose different modalities (nature, utility, relation to reality, etc.). Science, laws, history, fiction, and identity are all narratives sharing a fundamental nature but presenting different narrative conventions. Scientists, for example, employ narratives with methodological characteristics that allow understanding, predicting, and reproducing observations. However, this does not render reality objectifiable (Aramburu Oyarbide 2004). It does not diminish the fact that we are condemned to perceive reality only through our senses and within the limits of our biology. In addition to the filters of perception and cognition, according to Michel Foucault, there is the filter of episteme that conditions truth and possible discourses within a culture (Foucault 1966).

As a result of this shared reality, there is a communal pooling of representations and the emergence of a cumulative culture common to the species through the phenomenon of cumulative cultural evolution (Derex & Mesoudi 2020). Lastly, constantly exposed to portions of this communal cumulative culture, the individual accumulates a personal cultural matrix through their personal experience, which we will call private culture, constantly participating in the representations

they make of their reality and the narratives they tell to themselves (Nardone & Wittezaele 2016). The private cultures of each individual interact and influence each other, so individuals share cultural traits that are arbitrarily grouped under the label of culture and are thus brought together in social groups (Tooby & Cosmides 1989).

WHY DO WE NARRATE REALITY TO OURSELVES?

Humans spend a tremendous amount of time using language to narrate their reality. Whether it is their personal representations, those of others, or purely fictional narrative, Homo sapiens is constantly investing time and energy in narrative in a broad sense. Why do we do this? In what interest has the human species developed such a narrative ability?

From Pre-linguistic Communication to Language

In the animal realm, we find what Brian Boyd calls precursors of narrative. Indeed, all organisms, even unicellular ones, use information from their environment and produce responses. Mobile animals need to represent their environment to move within it. To do that, they use information from the outside and generate responses. Animals can communicate with each other through gestures, postures, screams, and more. But for non-human animals, the most developed communication is mostly limited to simple events in the here and now (Boyd 2018).

Within the Homo genus, there is an evolution of communication abilities. The imitation behavior is becoming more proficient. Imitation is a more elaborate capacity than emotional or motor contagion because it involves joint attention, which is the origin of relationships between individuals (Berthoz 2008). Major behaviors appeared with Homo erectus thanks to the development of a fine and significant imitation ability. Thus, the use of fire, tool-making, cooperation, including the hunting of large animals, were favored (Boyd 2018). Conversely, these behaviors increased the need for cooperation and exerted pressure towards an evolution towards better communication. The necessary intention to communicate would have led to the development of language.

In Homo erectus also, language expression was limited to postures, gestures, and sounds. Evidence of the existence of spoken language based on the system of articulated sound production dates back to 500,000 years ago (Boyd 2018), the twilight of Erectus, although the debate remains open, particularly due to new lines of research focusing on the evolution of the auditory model of Homo rather than on that of articulated sound production (Martínez et al. 2009). An individual who receives information through language perceives a direct survival advantage. They can benefit from alerts from their peers and, secondarily, from valuable learning. The evolutionary advantage of language production, which is less obvious, could reside in the social gain conferred to the group by providing useful or decisive information (Dessalles 2011). Indeed, there are numerous evolutionary advantages to cooperation , which can motivate individuals to develop strategies to help each other (Sachs et al. 2004). The emergence of this capacity to reproduce events through imitation is an essential element in the development of increasingly sophisticated communication (Sachs et al. 2004). Through "prelinguistic" communication, Homo erectus developed a culture in which the invention of language became possible and necessary (Dor 2017). Language would have gradually emerged through behaviors guided by the ever-increasing necessity to communicate better. The evolution of these cognitive faculties in the Homo genus is complex and spans tens of thousands of years. It is referred to as the Cognitive Revolution by Yuval Noah Harari, who considers it one of the most significant moments in the history of our species (Harari 2016). This revolution is primarily conceptual, as new possibilities of abstraction and conceptualization emerge with cognitive development and the emergence of language (Pinker 2013). Suddenly, the horizon of the imaginary world extends infinitely, and the possibilities are endless.

Cumulative culture: a successful evolutionary strategy

According to Daniel Dor, the specificity of language, compared to any other means of communication, lies in its ability to allow the sharing of the experience of reality (Dor 2017). This specificity enables the use of others' experience for one's own survival. Pandora's box of storytelling is opened. With the progressive sharing of narratives representing reality, pools of information usable by other individuals are formed and transmitted through generations. This is the phenomenon of cumulative cultural evolution (Derex & Mesoudi 2020, Mesoudi & Thornton 2018). This phenomenon has consequences for human beings' tendency towards innovative behaviors and, therefore, for adaptability possibilities (Kobayashi & Aoki 2012). *"The behavioral adaptations that explain the immense success of our species are cultural in the sense that they are transmitted among individuals by social learning and have accumulated over generations*" (Henrich & McElreath 2003). The cognitive faculties enabling language seem to have developed in response to the necessity of sharing lived experiences to organize group behaviors and transmit information.

The sharing of the experience of reality occurs through language and, therefore, through narrative. The experimentation of reality takes place within a constant interaction between the ever-changing narrative of one's own representation of reality and this dynamic pool of shared representations, this pool of narratives with their own narrative conventions. This process would play a predominant role in the evolutionary success of our species. The emerging phenotypic variability of cultural expression would constitute an effective evolutionary strategy in the face of labile selection pressures (Carja & Creanza 2019). Similar processes of forming a common pool of information are found in other species, such as chimpanzees (Vale et al. 2017). This is cultural capacity (Barkow 1978). The magnitude of this phenomenon in non-human animals is not comparable, but it testifies that the beginnings of such a strategy can be found elsewhere in evolution. The emergence of language infinitely expands the boundaries of culture (Barkow 1978).

Narrative: a medium between shared and personal experience

Whereas the sharing of experimentation through pre-linguistic means was rudimentary, it becomes sophisticated with the emergence of language. The primary medium of this sophistication is narrative. Narrative is the interface between private culture and shared culture. It allows contact with the accumulated cultural pool of information and the exploitation of this information for oneself. Mind and culture are composed of narratives, information told in various forms. Without the ability to narrate, the human species would probably not have experienced such evolutionary success compared to the rest of the animal kingdom (Bruner 2013). This storytelling ability, involving narration and comprehension, seems to have been favored by natural selection because it provides decisive advantages in accessing the experiences of others (events, problems, solutions, norms, transgressions, etc.) (Boyd 2018). For example, a skilled storyteller would have an evolutionary advantage, including higher reproductive success than their counterparts (Smith et al. 2017). Language itself develops in childhood through narrative.

Narrative enables intersubjective contact, an understanding of others' representations of reality. It allows for interpretation. Homo sapiens is likely the only species capable of apprehending how their fellow beings conceive of reality (Bruner 2006). Furthermore, we direct this capacity towards our own behaviors. The way we tell and interpret our life stories influences our lives. Imagination allows for rapid behavioral adaptations and the modification of habits.

The particular self-narrative is singular. While neuroscience suggests that cognition operates through different processes working in parallel or succession, a sense of unity persists, the sense of self (Gazzaniga 2013). From this arises the "I." We constantly use the "I," convinced of being a unique entity. This conviction is nourished by our bodies, our experience of reality, our memory, our interactions, and more. The "I" is the narrative of an entity, an identity. This narrative evolves throughout existence, especially because it is co-constructed through social interactions. This "I" is also what conceptually separates me from others in the imaginary world (Bruner 2013). According to Gazzaniga, the sense of self is constructed by the mental process he calls the interpreter, which is responsible for giving coherence to conscious experience, including a continuum in time (Gazzaniga 2013). The phenomenon of dysnarrativia, found, for example, in diseases like Korsakoff's or Alzheimer's, in which individuals lose their ability to explain and understand stories, is accompanied by a loss of self-narrative (identity), the ability to interpret others' thoughts, and ultimately, the sense of self. The "I" seems intimately linked to the ability to narrate and relational processes (Bruner 2013).

CLINICAL IMPLICATIONS

According to Bruner, there are at least two reasons to explore narrative processes. The first is to control the effects of narratives, including psychological effects. The second is to cultivate representations that are of interest (Bruner 2013). Narration plays a central role in psychology and is approached in multiple ways. For example, the Palo Alto school built its entire doctrine around communication (Watzlawick et al. 1972), Lacan emphasized the importance of language, Freud sought traces of the unconscious in discourse, and hundreds of criteria in the DSM-5 can be found in patient speeches. The topic of clinical implications of narratives is extensive, but here we will touch upon three areas of implications.

Firstly, therapeutic interviews. This fundamental tool in clinical practice is imbued with the phenomenon of narrative. Patients tell their own stories to themselves. Through expression, they convey a part of what they are telling themselves while also considering what the therapist might make of their narrative. This interferes with how they intended to convey their story. The gestures, appearance, and words of both the therapist and patient are constantly and reciprocally interpreted, compared to the individual cultural repertoire that both have developed through their interaction with the cumulative cultural pool. Therapists and patients engage in constant interpretation, and when they do not, it is because they tell themselves it is appropriate not to do so. In other

words, individual culture influences therapeutic interviews (Guarnaccia 2007). Regarding these processes of interpretation, neural mechanisms that potentially link the representation of actions with the representation of intentions and emotions are being studied (Berthoz 2008). However, the narrative as a product of an individual culture in constant interaction with a cumulative culture seems to be overlooked. Categorical diagnostic methods, for example, do not incorporate this dimension. There is limited training, and psychiatric research on the subject is not well-developed, leaving it to anthropology (Tooby & Cosmides 1989).

Secondly, the approach to narrative holds therapeutic benefits. Some approaches emphasize the cultural construction of narratives (ethnopsychiatry, constructivism, narrative therapy, strategic systemic therapy, etc.) and demonstrate the relevance of starting with the patient's own storytelling, their narrative, to find the most appropriate therapeutic levers for them, rather than imposing universal methods based on our definitions of disorders (Nardone & Wittezaele 2016, Granvold 1996, Zeller & Le Hoang 2019). The therapeutic mechanisms of narrative arise precisely from the fact that it is co-constructed, that private culture is never entirely private, and that it can draw from shared culture to adapt (Combs & Freedman 2016). Narrative therapeutic approaches appear to have applications in various fields of mental health, ranging from dementia to end-of-life care and PTSD (Kenyon & Randall 2015).

Finally, some hypotheses suggest that some mental disorders are products of culture, of narratives shared in the cumulative culture. Therefore, research is being conducted to try to demonstrate relationships, for example, between mood disorders and historical cultural developments favoring individualism and responsibility (Carta et al. 2001). Another example is the adoption, concurrent with globalization, of eating disorders as a self-abandonment strategy in the face of constraints among South Asian women, whereas these disorders were previously thought to be confined to Western societies (Littlewood 1995, Littlewood 2004).

Some argue that natural selection is a master principle that applies to different domains, including the evolution of culture (Carneiro 1992). According to this logic, pathological behaviors could be considered innovative behaviors produced by culture in order to generate behaviors that are adapted to the evolving environment, ultimately promoting adaptation (Carta et al. 2001). Indeed, the environment is partly social, and adaptation is not limited to satisfying basic needs. Optimal social adaptation promotes survival. This raises the classic question of social norms and deviance from those norms, which are cultural constructs. Some authors consider deviance to be "a social problem before it is an illness" (Dorvil 2005).

DISCUSSION

In this article, close connections are made between Darwinian theory and the social and cultural evolution of human beings. However, some authors consider this approach to be entirely inadequate, arguing, in particular, for the differences between the specificities of biological evolution, that make the theory of evolution relevant, and those of cultural evolution (Hallpike 2014).

Furthermore, the impact of cultural factors in psychopathological processes remains controversial. In the case of severe depression, for example, the literature provides little evidence for a direct link to sociocultural factors (Walter & Thomas 2009).

However, the difficulties in establishing such evidence may be methodological. Research in this area is hindered by semantic ambiguity, where general notions are used to refer to elements defined differently from one another, as seen in the phenomenon of cumulative cultural evolution (Mesoudi & Thornton 2018). Similarly, the concept of socio-cultural factors seems insufficient to demonstrate or refute the impact of personal culture in psychopathology, given its misuse in the literature. The role of culture is sometimes studied in a caricatural manner, reducing it to a handful of features, which is at best approximate. Even more considering the era of globalization which multiplies the influences individuals are exposed to. There is not a single "French culture" or "Tutsi culture," but a multitude of cultural elements that weave a delicate lacework of individual representations. The threads of this lacework need to be unraveled during the biographical narrative in the course of interviews. Paying particular attention to recognizing and understanding these individual representations in their specificities is, in fact, a profoundly empathetic approach. Considering an individual through cultural stereotypes associated with one of their characteristics without understanding the place that this characteristic has taken in their representations does not allow for empathy. Data produced using such methods appear doubtful to us. It is, however, essential to delve further into the mechanisms of the formation of personal culture, as well as the cognitive and psychological processes that enable narratives (Tooby & Cosmides 1989).

The evolution of theoretical frameworks in psychiatry from a categorical paradigm to a dimensional approach should facilitate the transition to an intercultural psychiatry, a psychiatry of context and lacework (Littlewood 1990).

CONCLUSION

Homo sapiens appears to have benefited from the evolutionary advantages of the cognitive revolution,

which allowed for the development of language. This evolution resulted from the need to communicate more effectively than through pre-linguistic means in order to organize cooperation and transmit information. Cognitive changes seem to have occurred gradually under behavioral pressure, leading by a dual advantage: social for the speaker, practical for the listener. Thus, having developed language, Homo Sapiens can describe, with increasing precision, their representations of reality, the meaning they attribute to it, their narratives. Through the sharing of these narratives, individuals share these representations and collectively construct a pool of shared information with their peers. These pools intersect throughout history, mutually influencing and transmitting from generation to generation. Everyone partially interacts with the accumulated pool of the species, drawing elements from narratives that feed into their personal cultural pool and contribute to the constant construction of their narratives of reality.

This phenomenon should not be overlooked in psychology as narrative construction is central, particularly in interviews, therapy, and psychopathology. Indeed, common cultural narratives could underlie several phenomena currently considered mental disorders. Some view this as a natural process of selecting behaviors, where deviant behaviors deviate from norms to explore adaptation possibilities to the environment (or society).

The use of concepts from Darwinian theory to describe the social and cultural evolution of Homo sapiens is controversial. Furthermore, evidence documenting direct links between socio-cultural factors and psychopathology is lacking.

Given these last elements, it appears that the dynamic between cumulative evolutionary culture and private culture, with narrative as medium, constitutes a formidable adaptive strategy. However, it also represents both a psychopathological pathway in mental health and an essential therapeutic lever. It is essential, in the future, to further investigate the mechanisms of this dynamic and its clinical implications, as well as the process of giving meaning, of which this article is one more example.

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Naguy Bosserez: design of the study, literature searches and manuscript writing.

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